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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/234,518 | 01/21/1999 | IN TAE HWANG | K-078 | 5980 |

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| EXAMINER |
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TSEGAYE, SABA

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| ART UNIT | PAPER NUMBER |
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2662

14

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/234,518

Applicant(s)

HWANG ET AL.

Examiner

Saba Tsegaye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --.

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-21, 23-27 and 50-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17, 20, 21 and 24-27 is/are allowed.
- 6) ☒ Claim(s) 14, 18, 19, 23 and 50-60 is/are rejected.
- 7) ☒ Claim(s) 15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date, _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. Claims 14, 18, 19, 23, 53-55 are rejected under 35 U.S.C. 102(e) as being anticipated by Chater-Lea (US 5,822,314).

Regarding claims 14 and 23, Chater-Lea discloses a method of processing signals using medium access control sub-layers in a communications system which has a plurality of mobile terminals and a base station, the medium access control sub-layers being respectively provided in the mobile terminals (25) and base station (21), the method comprising:

performing, in each of the medium access control sub-layers, self-basic functions or functions associated with upper layers (MM, MLE, LLC) or a lower layer (Physical layer) of the mobile terminals (25) and/or the base station (21), the performing step being performed if signal processing operations of a corresponding one of the mobile terminals (25), of the base station (21), or between the corresponding mobile terminal and the base station are requested (column 5, lines 11-67); and

performing a synchronization information of system information broadcasting control operation between the corresponding mobile terminal and the base station, the step of performing the broadcasting control operating including (column 5, line 55-column 6, line 10):

sending time information, system information and paging information from the base station to the corresponding mobile terminal if the broadcasting control operation between the corresponding mobile terminal and the base station is requested (column 6, lines 39-45); and

receiving the time information, system information and paging information from the base station and transferring a synchronization request message or system information update

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requested message to the lower layer of the corresponding mobile terminal (column 6, lines 45-59).

Regarding claim 18, Chater-Lea discloses the signal processing method, further comprising:

performing a control information/user information request operation of the corresponding mobile terminal (25) or base station (21), the step of performing the control information/user information request operating including:

sending a control information/user information request message from a specific one of the upper layers of the corresponding mobile terminal or base station to the base station or corresponding mobile terminal if control information and user information are requested by the specific upper layer of the corresponding mobile terminal or base station (column 6, lines 11-59).

Regarding claim 19, Chater-Lea discloses, in Figs. 3 and 4, a method of processing signals using MAC sub-layers in a communications system which has a plurality of mobile terminals and a base station, the MAC sub-layers being respectively provided in the mobile terminals and base station, the method comprising:

performing, in each of the MAC sub layers, self-basic functions or functions associated with upper layers (MM, MLE, LLC) or a lower layer (Physical layer) of the mobile terminals (25) and/or the base station (21), the performing step being performed if signal processing operations of a corresponding one of the mobile terminals (25), of the base station (21), or between the corresponding mobile terminal and the base station are requested (column 5, lines 11-67); and

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performing a cipher control operation of the corresponding mobile terminal or base station, the step of performing a cipher control operation including:

transferring a cipher request message from a specific one of the upper layers of the corresponding mobile terminal or base station to the lower layer of the corresponding mobile terminal or base station if the cipher control operation of the corresponding mobile terminal or base station if the cipher control operation of the corresponding mobile terminal or base station is requested (column 6, line 3-24);

allowing the lower layer (MAC) to perform a cipher operation in response to the cipher request message from the specific upper layer (column 6, lines 11-20); and

transferring a result of the cipher operation from the lower layer to the specific upper layer (column 6, line 3-24).

Regarding claim 53, Chater-Lea discloses, in Fig. 4, a method for performing a ciphering operation, comprising:

providing information from an upper layer (MM, MLE, LLC) to a medium access control sub-layer (MAC) for protection of data (column 5, line 55-column 6, line 24);

performing ciphering of the data using at least one of the medium access control sub-layer and a physical layer (column 6, lines 11-24); and

providing a status of the ciphering operation to the upper layer (column 5, line 55-column 6, line 24).

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Regarding claim 54, Chater-Lea discloses, in Fig. 3, the method, wherein the ciphering operation (31) is performed by a mobile terminal (25).

Regarding claim 55, Chater-Lea discloses, in Fig. 3, the method wherein the ciphering operation (19) is performed by a communication network (21).

2. Claims 50-52, 56-58 and 60 are rejected under 35 U.S.C. 102(e) as being anticipated by Cheng et al. (US 6,393,008).

Regarding claim 50, Cheng discloses a method for obtaining a condition of a channel or a cell by an upper layer from a medium access control sub-layer of a communication device comprising:

sending a measurement request from the upper layer to the MAC sub-layer (column 5, lines 44-48);

obtaining a measurement indicative of the condition of the channel or the cell by the MAC sub-layer (column 5, lines 28-33; lines 48-56); and

providing a result of the measurement to the upper from the MAC sub-layer (column 6, lines 16-46).

Regarding claim 56, Cheng discloses, in Fig. 1, a communication system having a plurality of mobile terminals and a communication network, each of the mobile terminals and the communication network comprising:

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a physical layer for receiving and sending information (110a,b);

a medium access control sub-layer receiving services from the physical layer (106a,b);

and

an upper layer to the medium access control sub-layer for receiving services from the medium access control sub-layer (104a,b), wherein

the medium access control sub-layer performing a plurality of functions or providing a plurality of services and having a plurality of separate entities, each entity performing at least one corresponding different function (column 5, lines 44-65), and

the plurality of separate entities of the medium access control sub-layer includes:

a broadcast entity for handling a broadcast channel (column 6, lines 1-4),

a common entity for handling a common channel (column 6, lines 1-4), and

a dedicated entity for handling a dedicated channel (column 5, line 65-column 6, line 4).

Regarding claims 51, 52, 57 and 58, Cheng discloses the communication system, wherein any one of the channels is a logical channel (column 2, lines 42-45; column 5, lines 44-52).

Regarding claim 60, Cheng discloses the communication system, wherein the plurality of separate entities of the medium access control sub-layer further comprises a data entity of handling packet data transfer (column 6, lines 31-37).

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Claim Rejections - 35 USC § 103

3. Claim 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of Chater-Lea.

Cheng discloses all the claim limitations as stated above, except for ciphering function.

Chater-Lea teaches a communication system using encryption algorithms.

It would have been obvious to one ordinary skill in the art at the time the invention was made to add a ciphering function, such as that suggested by Chater-Lea, in the system of Cheng in order provide confidentiality on the digital radio link between mobile stations and base stations.

Allowable Subject Matter

4. Claims 17, 20, 21, 24-27 are allowed.

5. Claims 15 and 16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments with respect to claims 14-21, 23-27 and 50-60 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (703) 308-4754. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
April 18, 2004


JOHN PEZZLO
PRIMARY EXAMINER